

**Work Order ID 121446**

Thursday, June 26, 2014 2:59:50 PM

**\*121446\***

Page 1

Item ID: D3591-1

Accept

**\*N900040100\***

Setup Start

**\*NS1\***

Revision ID:

Item Name: Bushing

Stop

**\*NS2\***

Start Date: 6/27/14 Start Qty: 40.00

**\*40\***

Cust Item ID:

Required Date: 6/27/14 Req'd Qty: 40.00

**\*40\***

Customer:

Reference:

Approvals: Process Plan: MLSDate: 14-06-27

Tooling:

Date:

Run Start

**\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop

**\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3591	Rev B								

100

**\*100\***

Hardinge

CONVENTIONAL LATHE

0.00

4001414/07/09

Hardinge CNC Lathe Small

Memo

0.00

1-Turn as per dwg D35912-Deburr

110

**\*110\***

QC

Quality Control

QC2- Inspect parts off machine FAI/FAIB

0.00

Memo

0.00

4001414/07/09

120

**\*120\***

QC

Quality Control

QC8- Inspect parts - second check

0.00

Memo

0.00

40014-7-1088  
73  
DAS

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only 

Work Order: _____	DISPOSITION			AGAINST DEPARTMENT/PROCESS					
Part No. _____	Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>				
NCR No. _____	Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>				
	Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>				
	Suspected Unapproved <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>					

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

## FAULT CATEGORY

Landing Gear		General									
<input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Bend	<input type="checkbox"/> Folio/Program	<input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Pressure/Forced							
	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Grain	<input type="checkbox"/> Over/Under tolerance	<input type="checkbox"/> Set-up							
	<input type="checkbox"/> Broken/Damage/Defect	<input type="checkbox"/> Hardware	<input type="checkbox"/> Part Incorrect	<input type="checkbox"/> Temperature/Cure							
	<input type="checkbox"/> Burrs	<input type="checkbox"/> Inspection Incomplete/Unqualified	<input type="checkbox"/> Part Lost/Missing	<input type="checkbox"/> Weld							
	<input type="checkbox"/> Contamination	<input type="checkbox"/> Instructions Incomplete/Unclear	<input type="checkbox"/> Part Moved	<input type="checkbox"/> Wrong Stock Pulled							
	<input type="checkbox"/> Countersink	<input type="checkbox"/> Misaligned/off center	<input type="checkbox"/> Positioned Wrong								
	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Mislabeled	<input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Other							
	<input type="checkbox"/> Drawing	<input type="checkbox"/> Misread									
	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Off-set									
	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Calibration									
	<input type="checkbox"/> Fit/Function	<input type="checkbox"/> Out of Sequence									

Work Order ID 121446

Thursday, June 26, 2014 2:59:50 PM

\*121446\*

Page 2

Item ID: D3591-1

Accept

\*N900040100\*

Setup Start

\*NS1\*

Revision ID:

Item Name: Bushing

Stop

\*NS2\*

Start Date: 6/27/14 Start Qty: 40.00

\*40\*

Cust Item ID:

Required Date: 6/27/14 Req'd Qty: 40.00

\*40\*

Customer:

Reference:

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	*NR1*
	QC:	Date:	SPC (Y/N):	Date:	Stop		*NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Identify as per dwg & Stock Location: <u>FP001</u>	0.00							
<b>*130*</b> Packaging	Memo	0.00							

Packaging

140

QC21- Final Inspection - Work Order Release

0.00

**\*140\***  
QC

Quality Control

Memo

0.00

MUJ 14-07-14

MUJ 14-07-11

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

## WORK ORDER NON-CONFORMANCE / UPDATE



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Work Order update only 

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Part No. _____	Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>				
NCR No. _____	Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>				
	Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>				
	Suspected Unapproved <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>					

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

## FAULT CATEGORY

Landing Gear		General									
		<input type="checkbox"/> Bending	<input type="checkbox"/> Bend	<input type="checkbox"/> Folio/Program	<input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Pressure/Forced					
		<input type="checkbox"/> Centre Not Concentric	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Grain	<input type="checkbox"/> Over/Under tolerance	<input type="checkbox"/> Set-up					
		<input type="checkbox"/> Cracks	<input type="checkbox"/> Broken/Damage/Defect	<input type="checkbox"/> Hardware	<input type="checkbox"/> Part Incorrect	<input type="checkbox"/> Temperature/Cure					
		<input type="checkbox"/> Crimp/Kink/Ripple/Wave	<input type="checkbox"/> Burrs	<input type="checkbox"/> Inspection Incomplete/Unqualified	<input type="checkbox"/> Part Lost/Missing	<input type="checkbox"/> Weld					
		<input type="checkbox"/> Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Instructions Incomplete/Unclear	<input type="checkbox"/> Part Moved	<input type="checkbox"/> Wrong Stock Pulled					
		<input type="checkbox"/> Crushing	<input type="checkbox"/> Countersink	<input type="checkbox"/> Misaligned/off center	<input type="checkbox"/> Positioned Wrong						
		<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Mislabeled	<input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Other					
		<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Drawing	<input type="checkbox"/> Misread							
		<input type="checkbox"/> Marks/Chatter	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Off-set							
		<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Calibration							
		<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Fit/Function	<input type="checkbox"/> Out of Sequence							

# Picklist Print

Thursday, June 26, 2014 2:59:50 PM

Page 1

Work Order ID: 121446

\*121446\*  
\*D3591-1\*

Parent Item: D3591-1

Parent Item Name: Bushing

Start Date: 6/27/14

Required Date: 6/27/14

Start Qty: 40.00

Required Qty: 40.00

Comments: IPP A 07.02.01 new issue EC  
IPP Rev:B 08-09-10 revB as per dwg DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304TR0.500W.035		Purchased	No			100	f	497.5333	0.35	14.73684			**

\*M304TR0 500W 035\*

304 RD Tube .500 x .035W

Location	Loc Qty	Loc Code
MAT017	497.5333	
m126922	3	
m128084	65.3123	
m128495	120	
m128833	120	7
m129188	189.221	7

MH  
14/07/09

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only 

Work Order: _____	DISPOSITION			AGAINST DEPARTMENT/PROCESS					
Part No. _____	Rework	Scrap	Use-as-is	Skid-tube	Crosstube	Water Jet	Engineering		
NCR No. _____	Suspected Unapproved			Machining	Small Fab	Prod. Eng. Coor.	Quality		
				Thermoforming	Finishing	Rec/Store/Packaging	Other		
				Large Fab	Composite	Supplier			

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

## FAULT CATEGORY

Landing Gear		General									
Bending		Bend		Folio/Program		Outside Dimensions		Pressure/Forced			
Centre Not Concentric		BOM/Route		Grain		Over/Under tolerance		Set-up			
Cracks		Broken/Damage/Defect		Hardware		Part Incorrect		Temperature/Cure			
Crimp/Kink/Ripple/Wave		Burrs		Inspection Incomplete/Unqualified		Part Lost/Missing		Weld			
Cuffs		Contamination		Instructions Incomplete/Unclear		Part Moved		Wrong Stock Pulled			
Crushing		Countersink		Misaligned/off center		Positioned Wrong					
Heat Treat		Cut Too Short		Mislabeled		Power Loss/Surge		Other			
Inspection Strip in Tube		Drawing		Misread							
Marks/Chatter		Drill Holes		Off-set							
Turning Sequence		Finish		Out of Calibration							
Wave/Twist in Tube		Fit/Function		Out of Sequence							

<b>DART AEROSPACE LTD</b>	<b>Work Order:</b>	121446
<b>Description:</b> Bushing	<b>Part Number:</b>	D3591-1
Inspection Dwg: D3591	Rev: B	Page 1 of 1

## FIRST ARTICLE INSPECTION CHECKLIST

## X First Article      Prototype

Measured by: MH

**Audited by:** *D 13 88*

**Prototype Approval:** N/A

Date: 14/02/09

Date: 14-7-10

Date: N/A

Rev	Date	Change	Revised by	Approved
A	08.09.04	New Issue	KJ/DD	
B	09.05.07	Tolerance updated per Dwg Rev B	KJ/EC	

8 7 6 5 4 3 2 1

D

D

C

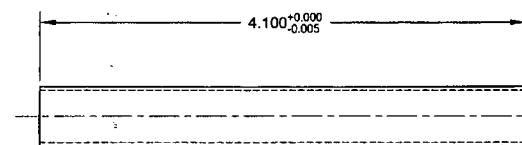
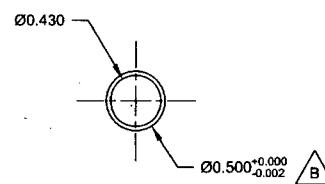
C

B

B

A

A

D3591-1 BUSHING

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT

WITHOUT NOTICE  
WORK ORDER

NO. 121446 MLC

1406-27

RELEASED  
06-09-03-114

**NOTES:**

- 1) MATERIAL: AISI 304/316 SS, Ø0.500, 0.035 WALL SEAMLESS ROUND TUBING  
REF. DART SPEC M304TR0.500W.035  
OR: AISI 303/304/316 SS, ROUND BAR  
REF DART SPEC M303R/M304R
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: N/A

B	DRAWING UPDATED TO "B" SIZE FORMAT AND CURRENT STANDARDS. ZN C6 TOLERANCE WAS -0.005. MATERIAL UPDATED TO ALLOW PART TO BE MACHINED TO MANTAIN TOLELANCE. (SEE NCR 08-074 FOR FURTHER DETAILS.)		AJS	08.08.25
A	NEW ISSUE		PH	07.01.16
REV.	DESCRIPTION		BY	DATE
DESIGN	PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		
DRAWN	AJS	DRAWING NO.	REV. B	
CHECKED		D3591		SHEET 1 OF 1
MFG. APPR.	CZ	TITLE	SCALE	
APPROVED		BUSHING	NTS	
DE APPR.		DATE	08.08.25	

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8 7 6 5 4 3 2 1